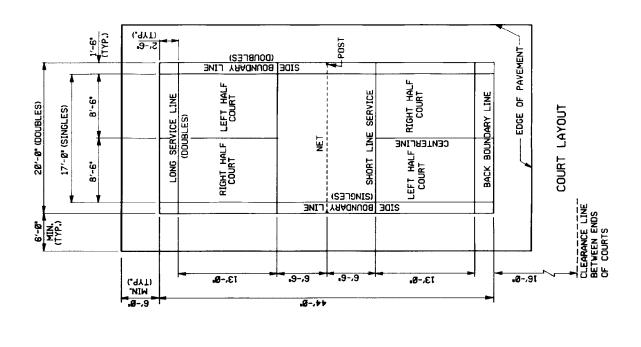
APPENDIX A

SPORTS COURTS

A-1. Badminton (see fig A-1)

- a. Source of information. United States Badminton Association, (USBA).
- b. Recommended area. Ground space is 1,620 square feet (0.04 acres) minimum to edge of pavement.
- c. Size and dimension. Singles court is 17 feet by 44 feet, doubles court is 20 feet by 44 feet with a 6-foot minimum unobstructed area on all sides.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
- (1) Surface is to be concrete or bituminous material with optional protective colorcoating for permanent installation. Turf may be used for general recreation use with surface drainage as described in (2) below except a minimum slope of 2 percent and adequate underdrainage will be used.
- (2) Drainage is to be end to end, side to side or corner to corner diagonally at the minimum slope of 1 inch in 10 feet (0.8 percent).



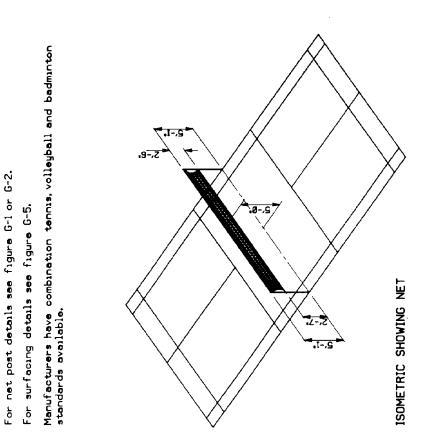


Figure A-1. Badminton.

Post should be positioned on the line, flush with outside of line.

Minimum distance between sides of parallel courts to be $6'-\theta'.$

Width of lines on service court (long & short service lines) fall within the 13 feet given as the service court.

All measurements for court markings are to the outside of lines except for those involving the center service line which is

equally divided between right and left service courts.

All court markings to be 1%'' wide and preferably white.

A-2. Basketball (ABAUSA) (see fig. A-2)

- a. Source of information. American Basketball Association, USA (ABAUSA).
- b. Recommended area. Ground space is 448 square meters (0.11 acre) minimum to 540 square meters (0.13 acre) recommended, including unobstructed space.
- c. Size and dimension. Playing court is 14 meters by 26 meters with an unobstructed space of 1 meter minimum to 2 meters recommended on all sides.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete or bituminous material with optional protective colorcoating.
- (2) Drainage is to be end to end, side to side or corner to corner diagonally at the minimum slope of 1 inch in 10 feet (0.8 percent).

COURT LAYOUT

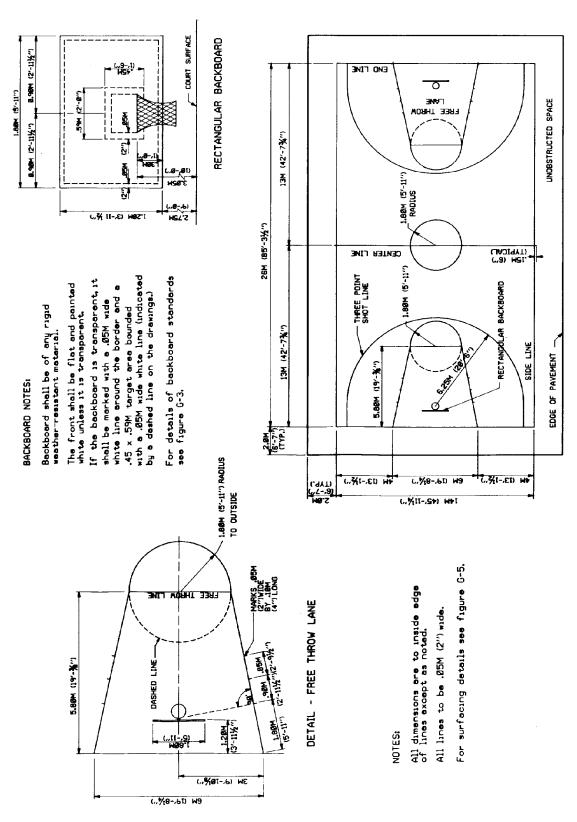


Figure A-2. Basketball (ABAUSA).

A-3. Basketball (NCAA) (see fig A-3)

- a. Source of information. National Collegiate Athletic Association (NCAA).
- b. Recommended area.
- (1) High School ground space is 5,040 square feet (0.12 acre) minimum to 7,280 square feet (0.17 acre) maximum.
- (2) Collegiate ground space is 5,600 square feet (0.13 acre) minimum to 7,980 square feet (0.18 acre) maximum.
 - c. Size and dimension.
- (1) High School recommended court is 84 feet by 50 feet with a 10-foot unobstructed space on all sides (3-foot minimum).
- (2) Collegiate recommended court is 94 feet by 50 feet with a 10-foot unobstructed space on all sides (3-foot minimum).
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete or bituminous material with optional protective colorcoating.
- (2) Drainage is to be end to end, side to side or corner to corner diagonally at the minimum slope of 1 inch in 10 feet (0.8 percent).



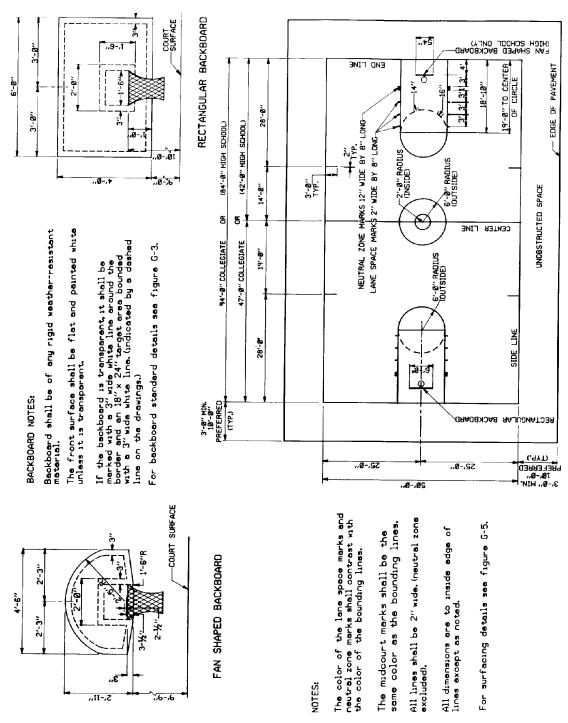
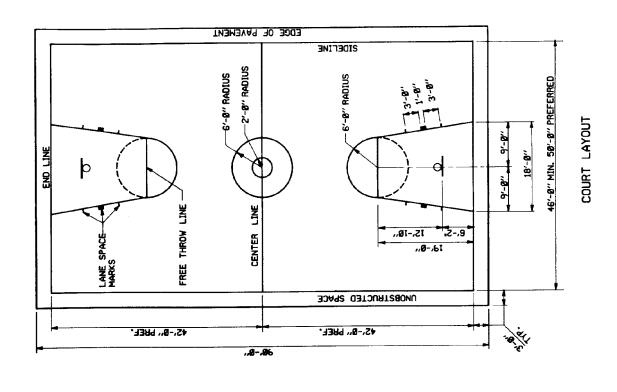


Figure A-3. Basketball (NCAA).

A-4. Biddy basketball (see fig A-4)

- a. Source of information. Biddy Basketball Association, Inc.
- b. Recommended area. Ground space is 4,680 square feet (0.11 acre) to 5,040 square feet (0.12 acre) including clear space.
- c. Size and dimension. Playing court is 46 feet 0 inch to 50 feet 0 inch wide and 84 feet 0 inch long with an unobstructed space of at least 3 feet recommended on all sides.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete or bituminous materials with optional protective colorcoating.
- (2) Drainage is to be end to end, side to side or corner to corner diagonally at a minimum slope of 1 inch in 10 feet (0.8 percent).



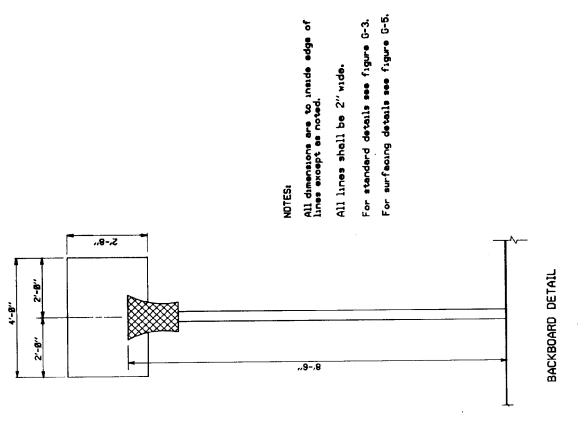


Figure A-4. Biddy basketball.

A-5. Goal-Hi basketball (see fig A-5)

- a. Source of information. AMF Voit Corporation.
- b. Recommended area. Ground space minimum is 1,256 square feet (0.03 acre); maximum is 2,82 square feet (0.06 acre).
- c. Size and dimension. Playing court is to be an outer court circle with a minimum radius of 20 feet 0 inch and a maximum radius of 30 feet 0 inch, surrounding a concentric inner court circle with a minimum radius of 10 feet 0 inch and a maximum radius of 15 feet 0 inch.
 - d. Orientation. Optional.
 - e. Surface and drainage.
- (1) A resilient synthetic surface is preferred for safety and comfort. However, concrete or bituminous surface may be used for minimum maintenance.
 - (2) Minimum slope is 1 inch in 10 feet (0.8 percent) for drainage in any direction.

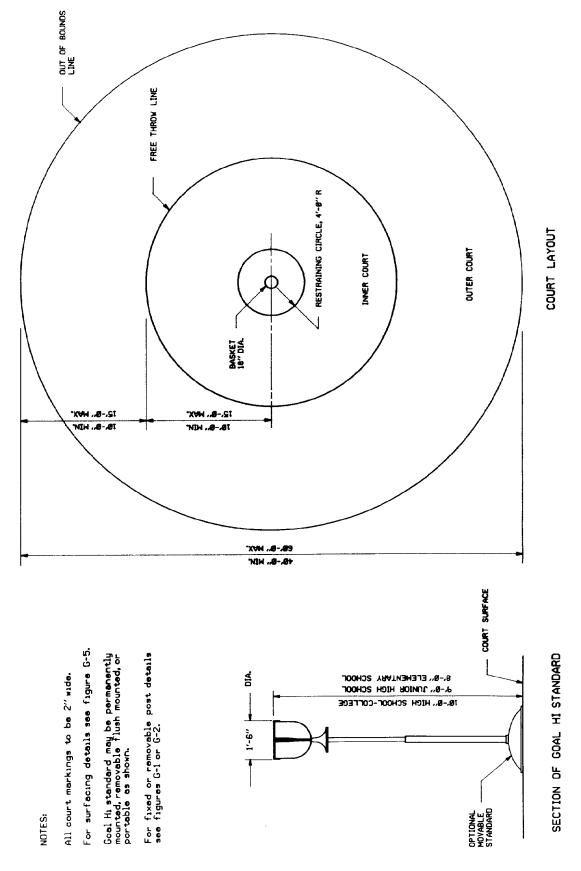
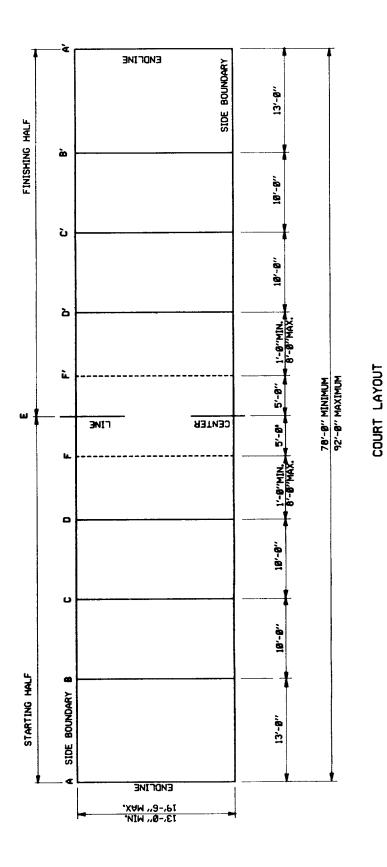


Figure A-5. Goal-Hi basketball.

A-6. Boccie (see fig A-6)

- a. Source of information. General Sportcraft Company, Ltd.
- b. Recommended area. Ground space is 1,824 square feet (0.04 acre) to 2,805 square feet (0.06 acre).
- c. Size and dimension. Overall court dimensions range from 13 feet 0 inch to 19 feet 6 inches wide by 78 feet 0 inch to 92 feet 0 inch long. Additional space of at least 3 feet 0 inch on each side and 9 feet 0 inch on each end is recommended.
- d. Orientation. Preferred orientation is for the long axis to be north-south. It may be adjusted to suit local topographic conditions.
 - e. Surface and drainage.
 - (1) Surface is to be preferably turf, although a mixture of sand and clay may be used.
- (2) Drainage may be in any direction at a recommended slope of 1 percent for turf and level for sand-clay with subdrainage.
- *f.* Special considerations. Optional low wooden barrier should be provided at each end and/or side of court.



Court markings to be 2" wide linen tape held in place with metal pins.

NOTES:

For surfacing details see figure 6-5.

Figure A-6. Boccie.

A-7. Croquet (see fig A-1)

- a. Source of information. National Croquet Association, Inc. (NCA).
- b. Recommended area. Ground space is 3,000 square feet (0.07 acre).
- c. Size and dimension. Playing area is 35 feet 0 inch by 70 feet 0 inch, plus minimum 2 feet 6 inches on each end and side.
 - d. Orientation. Orientation may be adjusted to suit local topographic conditions.
- e. Surface and drainage. Playing surface is to be turf closely cropped and rolled with a maximum 2 percent slope (preferably level) and adequate subdrainage.

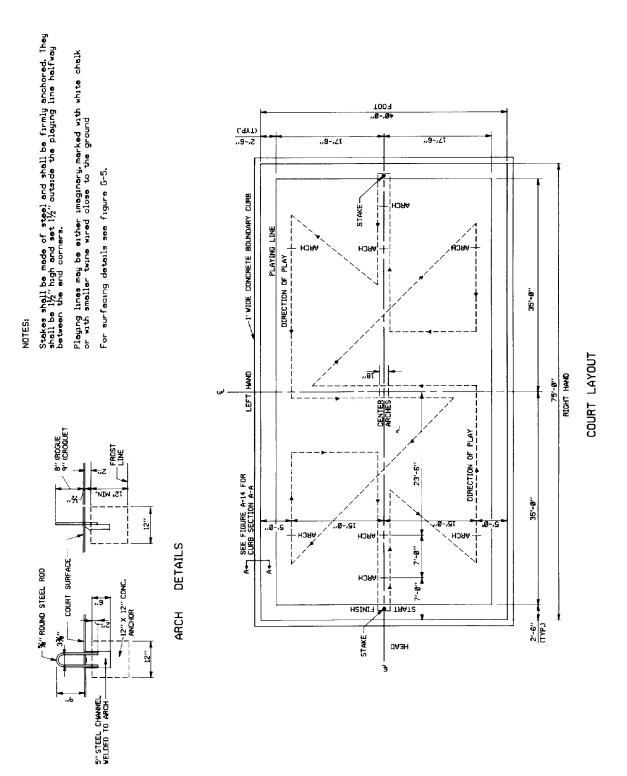
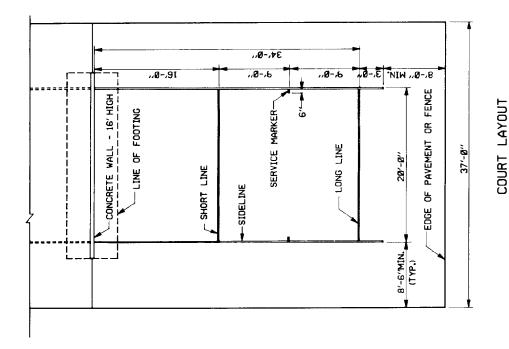
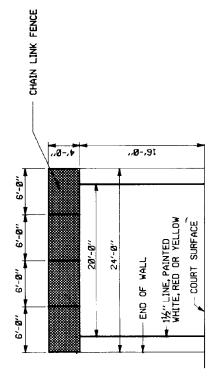


Figure A-7. Croquet.

A-8. One wall handball (see fig A-8)

- a. Source of information. United States Handball Association (USHA).
- b. Recommended area. Ground space is 1,665 square feet (0.04 acre) plus walls and footings.
- c. Size and dimension. Playing court is 20 feet 0 inch wide by 34 feet 0 inch long plus a required 11 feet 0 inch minimum width of surfaced area to the rear and a recommended 8 feet 6 inches minimum width on each side. Courts in battery are to be a minimum of 6 feet 0 inch between courts.
- d. Orientation. Preferred orientation is for the long axis to be north-south with the wall at the north end.
- e. Surface and drainage. Floor surface is to be smooth concrete with a minimum slope of 1 inch in 10 feet (0.08 percent) from the wall to the rear of the court. Wall to be concrete with very smooth finish, free of irregularities.
 - f. Special considerations. Court area will be fenced with a 10-foot high chain link fence.





ELEVATION

Figure A-8. One wall handball.

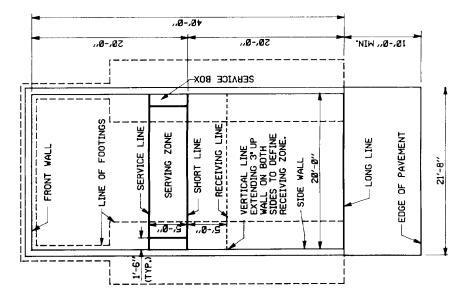
Court markings 1% wide lines painted white, red or yellow.

For surfacing details see figure 6-5.

Walls and footings shall be designed for site-specific conditions.

A-9. Three and four wall handball (see fig A-9)

- a. Source of information. American Amateur Racquetball Association (AARA).
- b. Recommended area. Ground space for four wall handball is 800 square feet (0.02 acre), plus walls and footing. Allow an additional 200 square feet for three wall handball.
- c. Size and dimension. Playing court is 20 feet 0 inch wide by 40 feet 0 inch long plus a minimum 10 feet 0 inch to the rear of the three wall court. Overhead clearance required is 20 feet 0 inch minimum.
- d. Orientation. Preferred orientation is for the long axis to be north-south with the front wall at north end.
- e. Surface and drainage. Floor surface is to be smooth concrete preferably with a minimum slope of 1 inch in 10 feet (0.8 percent) from front to rear of the court. Walls to be concrete with very smooth finish, free of irregularities.
 - f. Special considerations.
- (1) Alternate four wall court. Layout is the same for three wall with the exception of a minimum 12-foot 0-inch high back wall at the rear of the court (long line) and necessary wall footings.
- (2) Drainage. Special provisions for drainage must be made and access provided through the back wall for four wall courts.
- (3) Fencing. An optional 10-foot high chain link fence may be provided at the rear of the pavement for three wall courts.
- (4) Marking of receiving line. See Section 2, paragraph A(2)(e) of AARA rules for correct marking of receiving line.



COURT LAYOUT - 3-WALL

All court markings to be 1%'' wide and painted white, red or yellow.

NOTES:

Walls and footings shall be designed for site-specific conditions.

For surfacing details see figure 6-5.

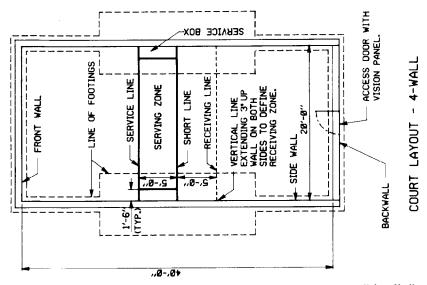
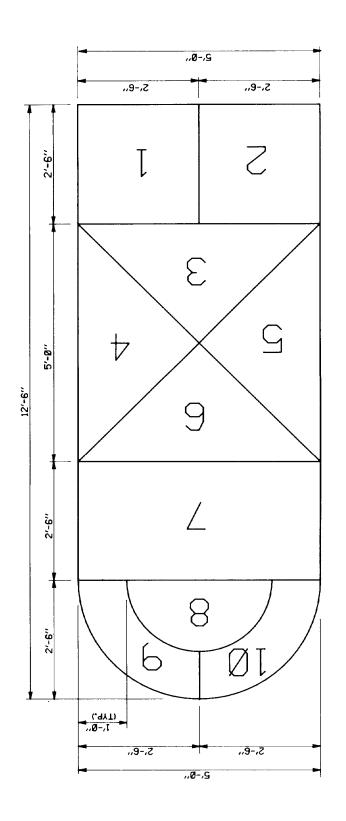


Figure A-9. Three and four wall handball.

A-10. Hopscotch (see fig A-b)

- a. Source of information. AMF Voit Corporation.
- b. Recommended area. Ground space is 62.5 square feet (0.001 acre).
- c. Size and dimension. Playing court is 5 feet 0 inch wide by 12 feet 6 inches long.
- d. Orientation. Optional.
- e. Surface and drainage. Surface is to be concrete or bituminous material with a lateral slope of 1 inch in 10 feet (0.8 percent) and a longitudinal slope of 1 inch in 10 feet (0.8 percent) minimum.



COURT LAYOUT

All lines to be 1% wide painted with white or black acrylic paint to contrast with court surface.

NOTES:

For surfacing details see figure G-5.

Figure A-10. Hopscotch.

A-11. Horseshoes (see fig A-11)

- a. Source of information. National Horseshoe Pitchers' Association of America (NHPAA), 1974.
 - b. Recommended area. Ground space is 1,540 square feet (0.04 acre), including clear space.
- c. Size and dimension. Playing court is 12 feet 0 inch by 50 feet 0 inch plus a recommended 10-foot unobstructed area on each end and a 5-foot minimum wide zone on each side.
 - d. Orientation. Recommended orientation is for the long axis to be north-south.
- e. Surface and drainage. Surface of playing area, except for boxes and optional concrete walkways, should be turf. Area should be pitched to the side at a maximum slope of 2 percent. Elevation of top of steel pegs should be equal.
- f. Special consideration. Safety: A 1-foot 10-inch minimum high backstop should be constructed at the end of the box to intercept overthrown or bounding shoes.

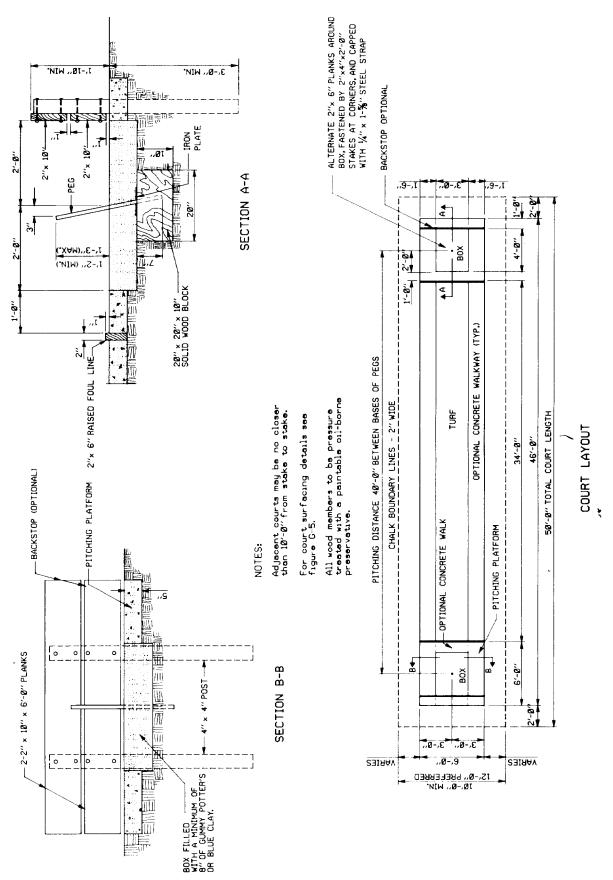


Figure A-11. Horseshoes.

A-12. Ice hockey (see fig A-12)

- a. Source of information. Amateur Hockey Association of the United States (AHAUS).
- b. Recommended area. Ground space is 22,000 square feet (0.51 acre), including support area.
- c. Size and dimension. Playing rink is 85 feet 0 inch wide by 200 feet 0 inch long, plus an additional 5,000 square feet (0.11 acre) of support area.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
- e. Surface and drainage. The ice surface will be level over either sand-clay or bituminous surface. Provisions for drainage should be made on the surface beneath the ice and around the rink.
- f. Special consideration. Ice: Unless situated in northern climates, provisions for artificial ice will be required.

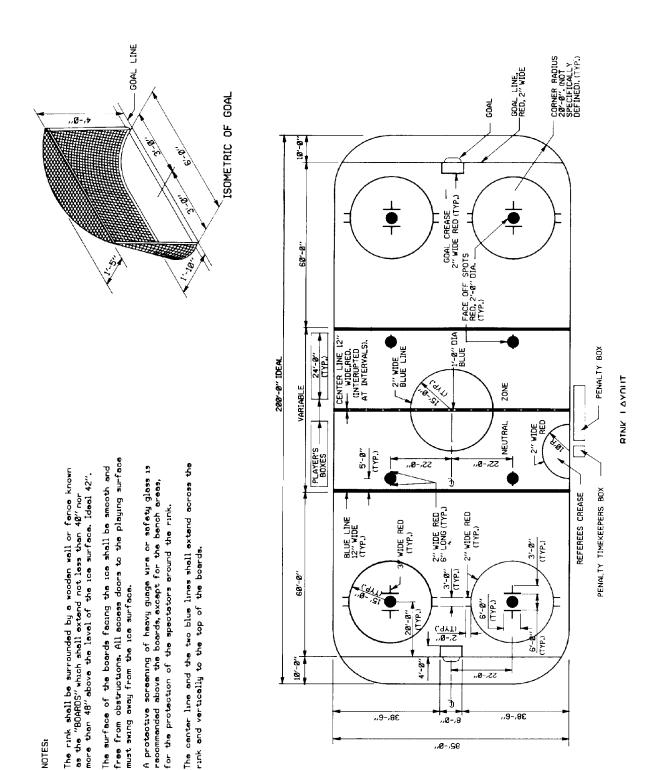


Figure A-12. Ice hockey.

A-13. Lawn bowling (see fig A-13)

- a. Source of information. American Lawn Bowls Association (ALBA).
- b. Recommended area. Square green with six rinks is 15,376 square feet (0.35 acre) minimum to 19,321 square feet (0.44 acre) maximum.
- c. Size and dimension. Rink length ranges from 120 feet 0 inch minimum to 132 feet 0 inch maximum on each side. Additional width of 2 feet 0 inch minimum to 3 feet 6 inches maximum is required on all sides for ditch and backslope. Rink width ranges from 14 feet 0 inch minimum to 19 feet 0 inch maximum.
 - d. Orientation. Optional.
 - e. Surface and drainage.
- (1) Surface will be closely cropped bent grass or sand-clay. If grass surface is used, contact ALBA for specific information about construction and maintenance.
 - (2) Entire green will be level, with adequate subdrainage.
- *f.* Special consideration. Ditch: Depth ranges from minimum 2 inches to maximum 8 inch below surface of green. Width ranges from minimum 8 inches to maximum 15 inches.

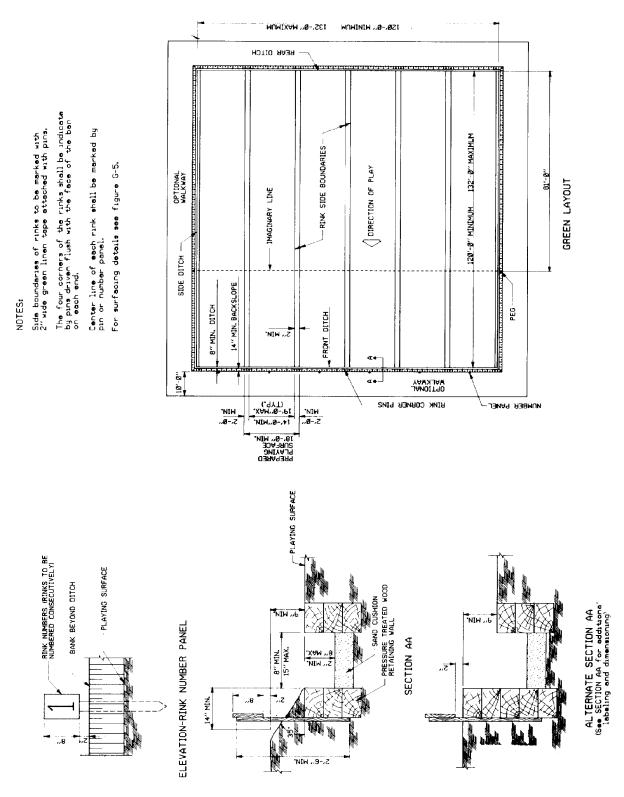


Figure A-13. Lawn bowling.

A-14. Roque (see fig A-14)

- a. Source of information. The American Roque League Incorporated (ARL).
- b. Recommended area. Ground space is 1,800 square feet minimum (0.04 acres), plus curb.
- c. Size and dimension. Playing court is 30 feet 0 inch wide by 60 feet 0 inch long.
- d. Orientation. Preferred orientation is for the long axis to be north-south.
- e. Surface and drainage.
 - (1) Surface is to be level and sand-clay mixture.
 - (2) Drainage is to be through perimeter system and/or through underdrains.
- f. Special considerations. Concrete curb is to be provided on all sides.

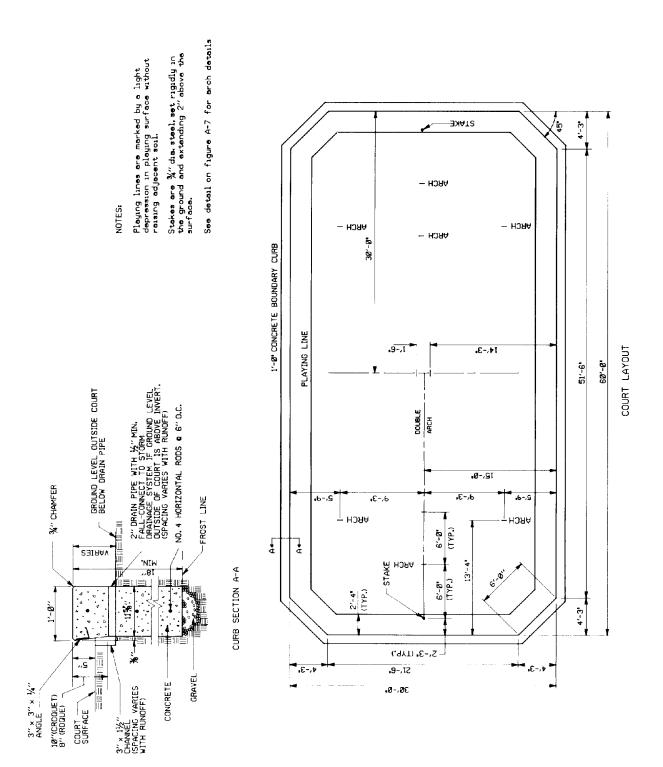


Figure A-14. Roque.

A-15. Shuffleboard (see fig A-15)

- a. Source of information. General Sportcraft Company, Ltd.
- b. Recommended area. Ground space is 312 square feet (0.01 acre) minimum.
- c. Size and dimension. Playing court is 6 feet 0 inch by 52 feet 0 inch plus a recommended mi of 2 feet 0 inch on each side or 4 feet 0 inch between courts in battery.
 - d. Orientation. Recommended orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete with a burnished finish.
 - (2) Court surface is to be level with drainage away from the play surface on all sides.

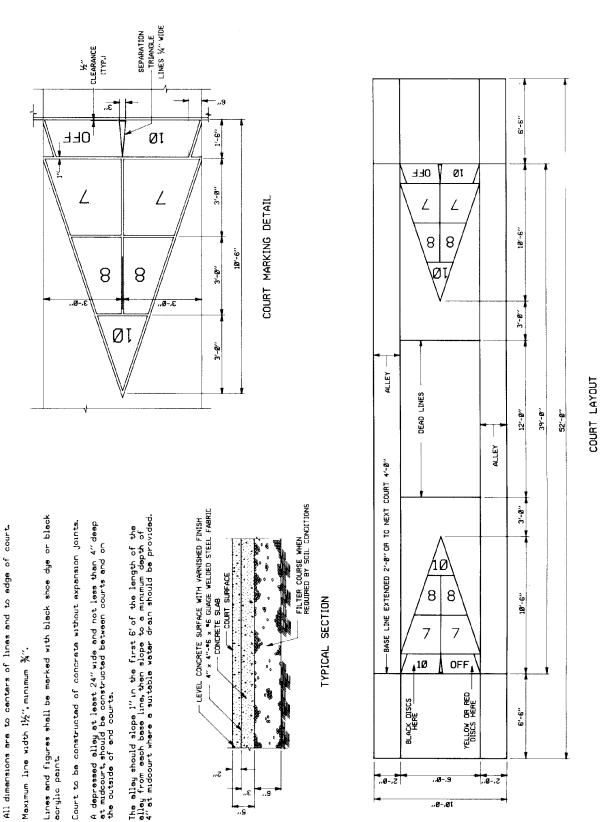
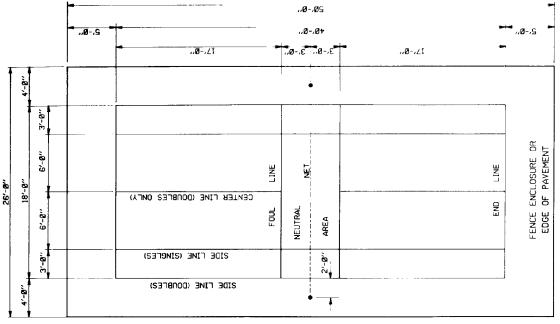


Figure A-15. Shuffleboard.

A-16. Deck tennis (see fig A-16)

- a. Source of information. General Sportcraft Company, Ltd.
- b. Recommended area. Ground space is 1,300 square feet (0.03 acre) including clear space.
- c. Size and dimension. Singles court is 12 feet 0 inch by 40 feet 0 inch. Doubles court is 18 feet 0 inch by 40 feet 0 inch. Additional paved area at least 4 feet 0 inch on sides and 5 feet 0 inch on ends is recommended for both.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete or bituminous material with optional protective coating.
- (2) Drainage is to be end to end, side to side, or corner to corner diagonally at a minimum slope of 1 inch in 10 feet (0.8 percent).
- f. Special considerations. Fencing: 10-foot high chain link fence is recommended on all sides of the court.

COURT LAYOUT





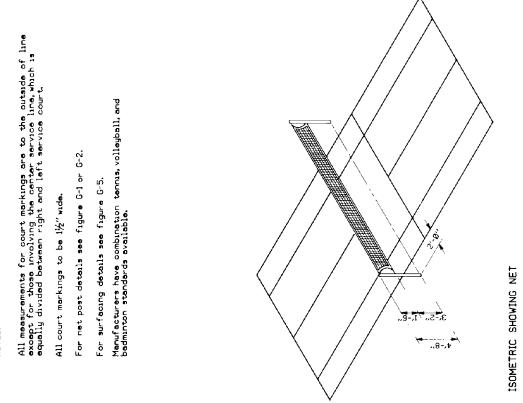
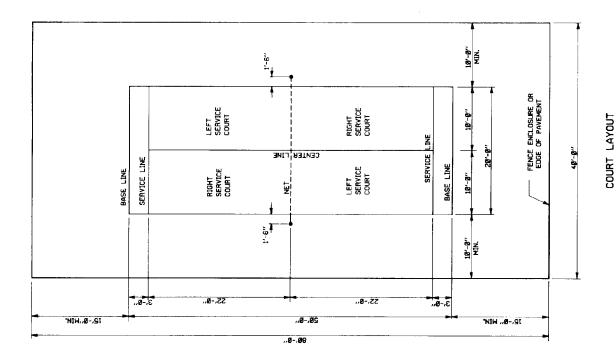


Figure A-16. Deck tennis.

A-17. Paddle tennis (see fig A-17)

- a. Source of information. United States Paddle Tennis Association (USPTA).
- b. Recommended area. Ground space is 3,200 square feet (0.07 acre) minimum to edge of pavement.
- c. Size and dimension. Playing court is 20 feet 0 inch by 50 feet 0 inch plus a 15-foot minimum space on each end and a 10-foot minimum space on each side or between courts in battery.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
 - (1) Surface is to be concrete or bituminous material with optional protective colorcoating.
- (2) Drainage is to be end to end, side to side or corner to corner diagonally at a minimum slope of 1 inch in 10 feet (0.8 percent).
- f. Special considerations. Fencing: 10-foot high chain link fence is recommended on all sides of the court.



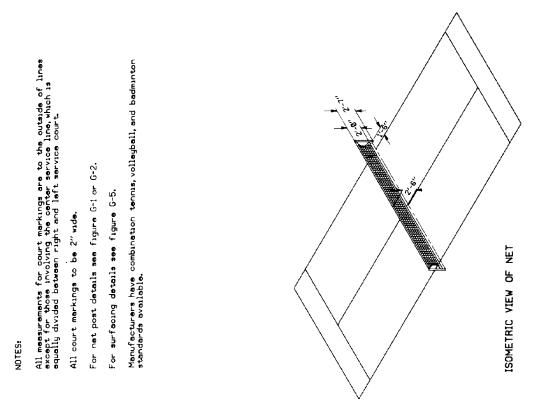
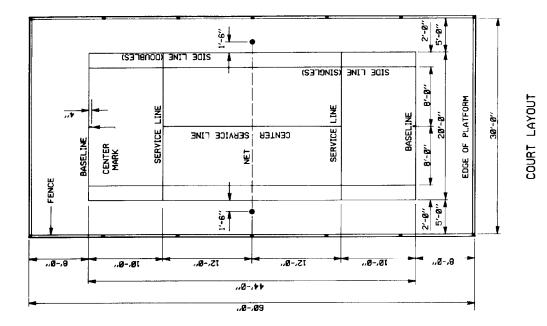


Figure A-17. Paddle tennis.

A-18. Platform tennis (see fig A-18)

- a. Source of information. American Platform Tennis Association (APTA).
- b. Recommended area. Ground space is 1,800 square feet (0.04 acre) to the playable perimeter fence.
- c. Size and dimension. Playing court is 20 feet 0 inch by 44 feet 0 inch plus an 8-foot 0-inch space on each end and a 5-foot 0-inch space on each side.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
 - e. Surface and drainage.
- (1) Raised level platform is normally constructed of treated wood or aluminum superstructure with carriage set on concrete piers to permit construction on slopes.
- (2) Drainage is provided by 1/4-inch space between 6-inch deck planks or channels. Snow removal is facilitated by hinged panels (snow gages) between posts around bottom of perimeter fence.
 - f. Special considerations.
 - (1) Tension fencing must be provided on all sides of the court.
 - (2) Prefabricated courts are available from several manufacturers.



ISOMETRIC SHOWING FENCE (TYPICAL WOOD CONSTRUCTION)

All measurements for court markings are to the outside of lines except for those involving the center service line, which is equally divided between right and left service court.

All court markings to be 2" wide.

For net post details see manufacturers' literature.

NOTES:

For not post details see manutacturers literature. Not height to be 3'-1" at post and 2'-10" at center court.

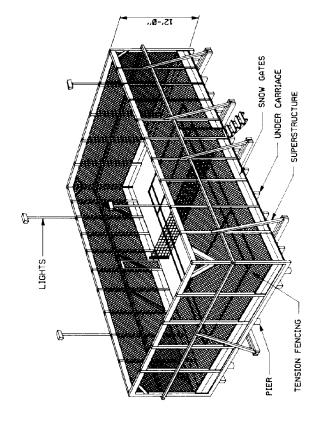
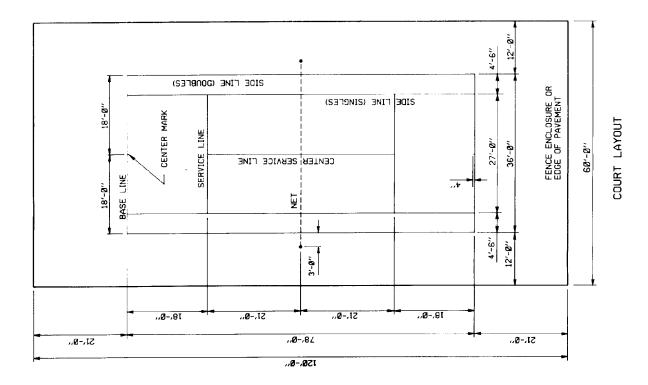
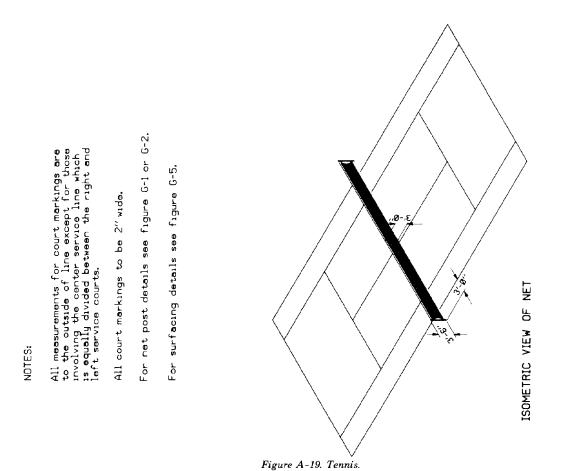


Figure A-18. Platform tennis.

A-19. Tennis (see fig A-19)

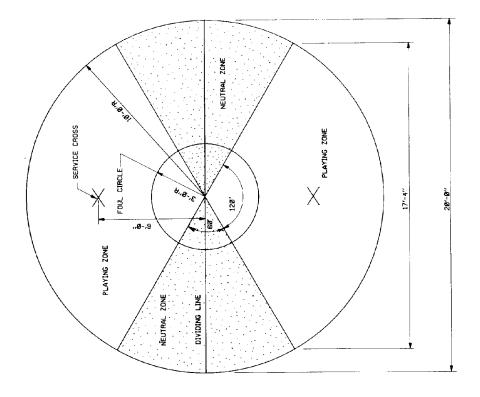
- a. Source of information. United States Tennis Association (USTA).
- b. Recommended area. Ground space is 7,200 square feet (0.17 acre) minimum.
- c. Size and dimension. Playing court is 36 feet 0 inch by 78 feet 0 inch plus 12 feet 0 inch minimum clearance on both sides or between courts in battery and 21 feet 0 inch clearance on each end. Minimum distance between baselines of end-to-end courts will be 42 feet 0 inch.
 - d. Orientation of long axis is to be north-south.
 - e. Surface and drainage.
- (1) Surface may be concrete, or bituminous material with specialized protective colorcoating, or sand-clay.
- (2) Drainage may be from end to end, side to side, or corner to corner diagonally at a minimum slope of 1 inch in 10 feet (0.8 percent) for pavement and level for sand-clay with subdrainage.
 - f. Special considerations. Fencing: Recommended 10-foot high chain link fence on all sides.





A-20. Tetherball (see figure A-20)

- a. Source of information. General Sportcraft Company, Ltd.
- b. Recommended area. Ground space is 314 square feet (0.01 acre) minimum to circumference of outer circle.
 - c. Size and dimension. Playing court is a circle 20 feet 0 inch in diameter. Pole height is 10 feet.
 - d. Orientation. Recommended axis through playing zone is north-south.
- e. Surface and drainage. Concrete or bituminous surface may be used for minimum maintenance, but a resilient synthetic surface or wood chips with adequate subdrainage is preferred for safety and comfort. Minimum slope is 1 inch in 10 feet (0.8 percent) for drainage in any direction.



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COURT SURFACE

SECTION

Figure A-20. Tetherball.

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2. BLACK BAND

SUPPORT POST

FIXED EYE BOLT

COURT LAYOUT All measurements for court markings are to center of lines.

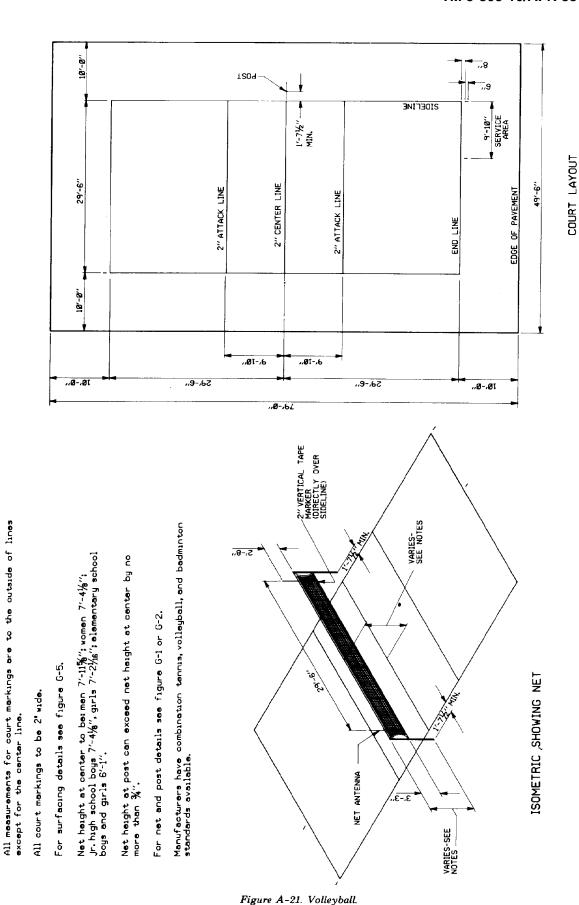
All court markings to be 2" wide.

If colorcoating is used, the neutral zones and the playing zones shall be of contrasting colors

For removable post detail see Figure G-2 For surfacing details see figure G-5.

A-21. Volleyball (see fig A-21)

- a. Source of information. United States Volleyball Association (USVBA).
- b. Recommended area. Ground space is 3,935 square feet (0.9 acre).
- c. Size and dimension. Playing court is 29 feet 6 inch by 59 feet 0 inch plus 10-foot unobstructed space on all sides.
 - d. Orientation. Preferred orientation is for the long axis to be north-south.
- e. Surface and drainage. Recommended surface for intensive use is to be bituminous material or concrete, but sand-clay or turf may be used for informal play. Drainage is to be end to end, side to side or corner to corner at a minimum slope of 1 inch in 10 feet (0.8 percent).



A-41